INTRODUCTION: Posttraumatic recurrent dislocation of the glenohumeral joint is one of the common shoulder disorders. Many surgical procedures have been performed to treat recurrent dislocation of the shoulder since 1960s. The modified Bristow procedure, which was initially described in 1970 by May1, has been thought to be effective in prevention of re-dislocation and has gained popularity over three decades of use. However, studies in the literature have reported about 4% of re-dislocation rate and average motion loss of about 10 degrees of external rotation after the modified Bristow procedure2,3. There is little known about the challenge to decrease these two major complications after the modified Bristow procedure. Our current strategy is to achieve 0% of re-dislocation rate and to reduce postoperative motion loss of external rotation. We have attempted the modified Bristow procedure with the augmentation by the Bankart repair procedure in order to achieve 0% of re-dislocation rate. We have also attempted modified immobilization in the neutral position with shake-hands’ brace postoperatively instead of the conventional immobilization in internal rotation in order to achieve more range of motion of external rotation.

The goal of this study was to evaluate the advantage of the modified postoperative immobilization in neutral position after the modified Bristow procedure with special reference to the achievement of the range of motion of external rotation.

MATERIALS AND METHODS: Patients: We evaluated 15 shoulders in 15 consecutive patients with traumatic anterior dislocation of the shoulders. There were 11 male and 4 female who had a mean age of 28.7 years (range, 21 to 40 years). Average postoperative follow up was 28 months (range, 8 to 50 months). All the patients were overhand athletes of contact sports. They had recurrent anterior shoulder dislocations and the number of previous dislocations was between 3 and 15 (average 7). Patients with a glenoid fracture and those without a Bankart lesion were excluded from this study.

Operative treatment: Repairable anteroinferior glenohumeral ligament and middle glenohumeral ligament were confirmed to be remained arthroscopically in all cases. The modified Bristow procedures without the Bankart repair procedures were performed in 10 cases. The modified Bristow procedures with the augmentation by the Bankart repair procedures were performed in 5 cases. (Fig.1)

DISCUSSION: The most important observation made in this study was that early acquirements of the motion of external rotation were recognized in the groups immobilized in the neutral position with shake-hands’ brace postoperatively. This means that the conventional immobilization in internal rotation induce to stiffen anterior capsuloligamentous complex of the glenohumeral joint and the subscapularis tendon. Stiffness of these anterior components may occasionally cause severe postoperative stiff shoulder and decrease of sport activities of the athletes. In other words, postoperative immobilization in the neutral position might be useful for the prompt recovery to the high-level sport activities of the operatively treated overhand athletes. All 15 shoulders have not been re-dislocated during our follow up period. The advantage of the modified Bristow procedure with the augmentation by the Bankart repair was not yet confirmed in this study. However, recent literature reported that labral coaptation at the Bankart lesion is affected in the neutral position compared with the coaptation achieved with the conventional position of internal rotation. The subscapularis tendon becomes tight and thereby closes anterior joint cavity, bringing the repaired anterior labroligamentous complex to the glenoid rim in the neutral position. Modified immobilization of the neutral position after the modified Bristow with the Bankart repair procedure might be reasonable for the enhancement of the healing process of the repaired labroligamentous lesion.

CONCLUSION: Modified immobilization of the neutral position induces early acquirements of the motion of external rotation after the Bristow procedures and it might be useful for the prompt recovery to the high-level sport activities of the operatively treated overhand athletes.